

Syphilis among Gurkhas from Nepal

Two cases of endemic infection

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Nepal is a small country situated north of the Tropic of Cancer and lies along the southern slopes of the Himalayas on the north east border of India. The inhabitants as a whole are called Nepalis or Nepalese, but when young Nepali men are enlisted into the British Army, they are called Gurkhas because many are descended from tribes who at one time lived near the town of Gurkha. These people now live in the Himalayan foothills where they earn a poor living by farming (Adshead and Cross, 1970). During service in the British Army, Gurkha soldiers regularly return home for leave and married men can bring their wives to their unit for several years.

Travellers have been allowed into Nepal only for the last 20 years. Visitors who stayed in the country for a period, such as Morris (1963) and Murphy (1967), observed that towns and villages were insanitary and the people dirty. In a survey of health in Nepal, Worth and Shah (1969) observed that the environmental conditions were highly favourable for the spread of disease.

The British Military Hospital in Singapore served Gurkha and British patients. During 1970 it was observed that syphilis was common among Gurkha men and women, and in a few cases it appeared that the condition had been acquired during childhood in Nepal. As far as could be determined the literature did not contain any accounts of clinical syphilis in Nepal. No reference concerning endemic syphilis could be found and the World Health Organisation had no record of it (Guthe, 1970). The object of this paper is to describe the pattern of syphilis diagnosed among Gurkha soldiers and their wives in 1970, to compare it with the cases diagnosed among British patients, and to describe in more detail two patients thought to have contracted endemic syphilis during childhood in Nepal.

Results

During 1970, fifty cases of syphilis were diagnosed among Gurkha and British men and women (Table); 39 were Gurkha and eleven were British. Most of the Gurkhas had latent acquired syphilis and most of the British patients had primary syphilis. Among the Gurkhas there were more cases of secondary than of primary syphilis, and in some the condition had been present for a considerable time. The patients with latent syphilis included five married couples and two married men whose wives were in Nepal. All cases of latent syphilis had reactive Fluorescent Treponemal Antibody—Absorbed (FTA—ABS) serum tests, normal cerebrospinal fluid (CSF), and normal radiographs of the chest, skull, and tibiae.

TABLE *Syphilis in Gurkha and British patients*

Category of syphilis	Gurkha (39)		British (11)	
	Male	Female	Male	Female
Congenital	1	0	0	0
Acquired Primary	5	0	8	0
Secondary	7	0	0	0
Latent	14	10	2	1
Endemic	1	1	0	0
Total	28	11	10	1

Five Gurkha soldiers with primary or secondary syphilis had been infected in South-East Asia and seven in Nepal; the source of infection could not be established in any of the latent cases. The British soldiers had all acquired their infection in South-East Asia, mainly in Singapore, and the woman had probably been infected by her husband.

Case reports

Case 1, a 24-year-old Gurkha soldier, was referred after the Venereal Diseases Reference Laboratory

(VDRL) serum test was found to be positive when he donated blood.

He had been born and brought up in a village in the hills of West Nepal. When aged 11 years he had developed a generalized non-irritant erythematous rash which had cleared spontaneously after about 2 months. He had no associated sore throat, hoarseness, or mouth ulcers, but the angles of the mouth had become ulcerated. 3 years later he had developed an eruption on both legs; sparse papules had developed which had gradually enlarged and then ulcerated. They had persisted for months and had been treated with local applications by his family. This type of condition was well known in the village but he could not recall its name.

The patient gave no other relevant history, and in particular nothing suggesting venereal syphilis. He admitted only one sex contact about a year before.

Examination

There were many rounded, slightly depressed, papery scars on both legs (Fig. 1) and some smaller ones on the trunk and arms. Scars were also present at the angles of the mouth. An island of opaque nerve fibres was present in the left optic fundus.

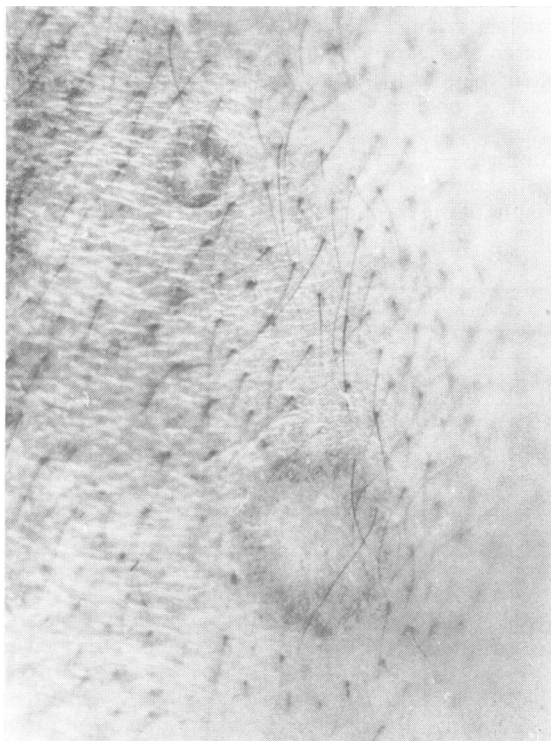


FIG. 1 Two scars on the leg

The VDRL was reactive 1:8, cardiolipin Wassermann reaction (CWR) reactive, Reiter protein complement-fixation test (RPCFT) reactive, and FTA-ABS₂ reactive.

Lumbar puncture showed clear CSF with normal pressure, protein 25 mg./100 ml., no cells, VDRL, RPCFT, and colloidal gold curve negative. Radiographs of chest, skull, and tibiae were normal. Haemoglobin (Hb) was 14.6 g./100 ml.; white cell count (WBC) 8,400/cu. mm, with a normal differential count; erythrocyte sedimentation rate (ESR) 3 mm./1st hr (Westergren).

All the rounded scars were related to the second part of the illness he described.

Diagnosis

Latent syphilis, possibly endemic.

Treatment

600,000 units aqueous procaine penicillin were given daily for 15 days.

Result

He was observed for a year before he returned to Nepal but the VDRL titre did not change.

Case 2, a 22-year-old Gurkha woman, was referred after a VDRL test was found to be reactive at the antenatal clinic.

She had been born in a village among the hills of East Nepal. When aged 5 or 6 years she had had a prolonged soreness of the throat and mouth, and a rash, all of which resolved spontaneously. At the age of 9 she had developed a sparse rash which had ulcerated on her legs and persisted for months. She thought that her five younger siblings had suffered from the same conditions, which were common in her village.

Her mother had had two miscarriages after the patient was born.

There was no history suggesting venereal syphilis. She had not been pregnant before and denied any premarital or extramarital sex contact. Her last menstrual period had been 5 months before.

Examination

She had small white scars along the margin of the lower lip (Fig. 2). There were depressed, rounded, papery-based scars on the legs and a few over the gluteal regions but none on the upper trunk or arms. The uterine fundus was at the level of the umbilicus.



FIG. 2 Scars are visible along the margin of the lower lip

The VDRL was reactive 1:2, CWR reactive, RPCFT reactive, and FTA-ABS reactive. Lumbar puncture showed clear CSF with normal pressure, protein 30 mg./100 ml., 2 lymphocytes per cu. mm., VDRL, RPCFT, and colloidal gold curve negative. Radiographs of chest, skull, and tibiae were normal. Hb 13.8 g./100 ml.; WBC 5,000/cu. mm. with a normal differential count; ESR 7 mm./1st hr.

Diagnosis

Latent syphilis, possibly endemic.

Treatment

600,000 units aqueous procaine penicillin were given daily for 15 days.

Result

She was observed for a year before she returned to Nepal and the VDRL titre did not change. She delivered a healthy child at full term. Cord blood VDRL and RPCF tests were reactive but the results reverted to normal spontaneously within 3 months. Her husband was examined and no clinical abnormality was found; his VDRL and RPCF tests were non-reactive. No siblings were available for examination.

Discussion

In this series there were 3.5 times more cases of syphilis among Gurkhas than among the British, though there were fewer Gurkhas in the garrison. The incidence of primary and secondary syphilis was 8 per thousand among Gurkha soldiers while the rate for infections acquired in Nepal was 4.6 per thousand; among British soldiers the incidence was 2 per thousand. For comparison the incidence of primary and secondary syphilis among men in England and Wales in 1970 was 0.04 per thousand (Report of the Chief Medical Officer, 1970). Morton (1971) calculated that the minimum case rate for all types of syphilis in Singapore in 1969 was 0.7 per thousand.

These figures show that syphilis is likely to be conspicuously commoner in Nepal than in Singapore or in Great Britain. Worth and Shah (1969) used a reagin screening test, giving similar results to the VDRL test (Worth, 1964), to examine serum from 4,195 Nepalis, and 42 (about 1 per cent.) gave reactive results. They concluded that syphilis was widespread throughout Nepal but was commoner in Kathmandu, the capital, and in the hills, than in the southern plains. The disease also appeared to be commoner among the hills in the far west than in the east. They suggested that, in the areas where it was more prevalent, this was due either to imported infection or to regional differences in sexual customs. Rosedale (personal communication, 1971) considered from his observations in Nepal that clinical syphilis was rare. Non-medical travellers have also commented on the incidence of disease in Nepal. Doig (Hillary and

Doig, 1963) and Hillary (1964) indicated that syphilis and "venereal disease" were prevalent in the mountains of north-east Nepal. Murphy (1967) learned that venereal disease was the main medical problem in one village to the north of Pokhara, and she saw many blind, deaf and imbecile children in and around Pokhara and Kathmandu. Leprosy is also present in Nepal (Worth and Shah, 1969) and in the past has been confused with syphilis (Hudson, 1958).

Cutler, Kvittingen, Rose, McCullough, Tampi, Sen, Parmar, and Lal (1952) indicated that syphilis was more prevalent in a nearby province of India than it appears to be in Nepal. Mitra (1970), who carried out a serological survey in Sikkim, immediately to the east of Nepal, using the VDRL test, found that 3.5 per cent. of results were reactive at a titre of 1:4 or higher. Among the 1,803 people studied, were 788 Nepalis of whom only twenty (2.5 per cent.) gave reactive results. Mitra (1970) also mentioned a personal communication indicating that the seropositive rate for syphilis in the central part of neighbouring Bhutan was 8.8 per cent. The serological studies of Worth and Shah (1969) and Mitra (1970), the observations of Rosedale (1971), and the present small series indicate that syphilis is less prevalent in Nepal than in surrounding areas. This finding is surprising and it appears unlikely that much syphilis is imported into Nepal. Reasons for this low incidence can only be surmised, but it may be due to differences in sexual customs.

Cases 1 and 2 almost certainly had treponemal disease, for their FTA-ABS tests were reactive. Differential diagnosis includes venereal syphilis, congenital syphilis, and non-venereal treponemal disease. The second patient was the eldest of the family and her mother's next two pregnancies miscarried, but the patient did not know any details. Miscarriage is common in Nepal and, apart from this in Case 2, there was nothing in the history of either case to suggest congenital or venereal syphilis. On the other hand, the histories and clinical findings are suggestive of non-venereal treponematosis.

Yaws occurs mainly in the belt between the Tropics of Cancer and Capricorn, and pinta is restricted to Central and South America, but endemic syphilis is found more widely, mainly in temperate regions (Guthe and Willcox, 1954). Endemic syphilis has been reported in Afghanistan (Cutler, 1950) and northern India (Cutler and others, 1952), both regions near Nepal.

Endemic syphilis in Yugoslavia has been fully described by Grin (1953), and that in Iraq by Csonka (1953) and Hudson (1958). The poor personal and environmental hygiene in Nepal closely resembles the conditions in the relevant areas of Yugoslavia and

Iraq. Endemic syphilis is a focal disease and the two patients described above stated that their illness was well known in their villages, though it was not clear if they recognized a connection between the two stages. Apart from two other patients to be mentioned below, no other Gurkhas had seen a similar illness. In cases 1 and 2 the condition had started in childhood and appeared to have passed into the late latent stage. Children form the reservoir of active infection in endemic syphilis (Grin, 1953; Hudson, 1958). Csonka (1953) found that 21 per cent. of the cases he examined in Iraq were in the late latent stage and these formed the largest group in his series. Most clinical descriptions emphasize oral lesions during the early stage and Patient 2 remembered painful ulcers in and around the mouth. Patient 1 did not recall lesions within the mouth but remembered ulcers at the corners and these are common in early syphilis. The scars on the legs had the appearances typical of those following gummata of the skin, and Csonka (1953) observed that cutaneous gummata were common on the legs of patients seen in Iraq.

Though a few rounded scars were often seen on patients' legs, examination of 107 Gurkhas showed only two more with multiple scars as seen in Cases 1 and 2. Both gave histories and had clinical and serological findings virtually the same as those in Cases 1 and 2, but their spouses appeared to have latent acquired syphilis. These two patients were also classified as suffering from latent acquired syphilis, although they may have had endemic syphilis. Hudson (1958) indicated that endemic and venereal syphilis may co-exist in the same community and it is, of course, possible for a person with endemic syphilis to marry one with venereal syphilis.

Hudson (1958) thought that many foci of endemic syphilis had not been identified. It is suggested that Nepal may be one of them, and one reason for the higher incidence of syphilis in the hills mentioned by Worth and Shah (1969) may be the presence of endemic syphilis.

Summary

During 1970 39 cases of syphilis were diagnosed among Gurkha patients and eleven among British patients attending the British Military Hospital in Singapore. Eleven Gurkha cases and one British case were in women. Most of the British men had primary syphilis and none had secondary syphilis, the incidence of primary infection being much higher than that of primary and secondary syphilis among men in England and Wales in 1970. Latent syphilis was the most common stage among the Gurkhas and more Gurkha soldiers had secondary than primary syphilis. Syphilis, though common in Nepal, seems to be less

prevalent there than in neighbouring areas such as northern India. The cases of a Gurkha man and woman, thought to have endemic syphilis contracted during their childhood in Nepal, are described and discussed. Endemic syphilis has not previously been reported in Nepal, but conditions there are similar to those in other regions where the infection has been recognized.

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La syphilis chez les Gurkhas du Népal

SOMMAIRE

En 1970, 30 cas de syphilis furent reconnus chez des malades gurkhas et 11 chez des malades britanniques consultant le British Military Hospital de Singapour. Onze cas chez les Gurkhas et un chez les Britanniques étaient des cas féminins. La plupart des hommes britanniques avaient une syphilis primaire, aucun d'eux une syphilis secondaire; pour ceux-ci l'incidence de l'infection primaire fut beaucoup plus élevée que celle de la syphilis primaire et secondaire chez les hommes en Angleterre et

au Pays de Galles en 1969. Parmi les Gurkhas, le stade le plus commun de la syphilis fut le stade latent ; les soldats gurkhas avaient plus souvent une syphilis secondaire qu'une syphilis primaire. La maladie, quoique commune au Népal, semble avoir une prévalence moindre que dans les zones de voisinage telle que le Nord de l'Inde. On

décrit et discute deux des cas observés, 1 masculin et 1 féminin, considérés comme ayant contracté une syphilis endémique au Népal pendant l'enfance. Jusqu'ici, on n'a pas rapporté de cas de syphilis endémique au Népal, mais les conditions y sont semblables à celle d'autres régions où cette forme de syphilis a été reconnue.